

Title (en)
APPARATUS FOR MACHINING A WORKPIECE WITH A LASER BEAM COUPLED INTO A FLUID JET, WITH AUTOMATIC LASER-NOZZLE ALIGNMENT ; METHOD OF ALIGNING SUCH A BEAM

Title (de)
VORRICHTUNG ZUR BEARBEITUNG EINES WERKSTÜCKES UNTER VERWENDUNG EINES LASERSTRAHLES UND EINES FLÜSSIGKEITSTRAHL MIT AUTOMATISCHEN LASER-DÜSEN-AUSRICHTUNG ; VERFAHREN ZUR AUSRICHTEN EINES SOLCHEN STRAHL

Title (fr)
APPAREIL D'USINAGE D'UNE PIÈCE À L'AIDE D'UN FAISCEAU LASER COUPLÉ AVEC UN JET D'EAU AVEC ALIGNEMENT AUTOMATIQUE DE LA BUSE VIS-A-VIS DU FAISCEAU LASER ; MÉTHODE D'ALIGNEMENT D'UN TEL FAISCEAU

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Abstract (en)
[origin: EP3533557A1] The invention relates to an apparatus (100) for machining a workpiece with a laser beam (101) coupled into a fluid jet. The apparatus (100) comprises a laser unit (101a) for providing the laser beam (101), a nozzle unit (102) with an aperture (102a) for producing the fluid jet, and an optical unit (103) configured to provide the laser beam (101) from the laser unit (101a) onto the nozzle unit (102). Further, the apparatus (100) comprises a control unit (104) configured to control (108, 110) the optical unit (103) and/or nozzle unit (102) to change a point of incidence (109) of the laser beam (101) on the nozzle unit (102). The apparatus (100) also comprises a sensing unit (105) configured to sense laser light (106) reflected from a surface (102b) of the nozzle unit (102) and produce a sensing signal (107) based on the sensed reflected laser light (106). The control unit (104) is particularly configured to evaluate the sensing signal (107) and to determine a defined sensing pattern in the sensing signal (107) indicative of the laser beam (101) being fully and/or partially aligned with the aperture (102a).

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